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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/974,806	10/12/2001	Shigetoshi Tomio	122.1052CIPC2	8860

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EXAMINER	
DINH, DUC Q	

ART UNIT	PAPER NUMBER
2674	10

DATE MAILED: 11/28/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/974,806	TOMIO ET AL.	
	Examiner	Art Unit	
	DUC Q DINH	2674	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *19 August 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-22* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *1-8* is/are allowed.

6)☒ Claim(s) *9-22* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

13)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

a) ☐ The translation of the foreign language provisional application has been received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
4) ☒ Interview Summary (PTO-413) Paper No(s). *10*.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 9-12 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant Admitted Prior Art, hereinafter AAPA (Fig. 1-4 and page 6, line 7-page 9, line 27) in view of Imamura (U. S. Patent No. 5,563,624) and further in view Yamakawa (U. S. Patent No. 4,848,876).

In reference to claims 9-10 and 22 the AAPA discloses in Fig. 1-4 a flat plasma panel using a high voltage source for supplying a sustain pulse. Imamura discloses in Fig. 1 flat panel display means having an internal power supply 28 for receiving high voltage from circuit 10, voltage detection unit 48 (col. 6, lines 11-34) and a drive control signal control means which response to the high voltage and is capable of stopping the drive control signals, signal DFF (col. 5, lines 41-60). Imamura does not teach internal power supply control means. Yamakawa discloses internal power control means by the DC-DC converter 120. Imamura teaches controlling the power supply control signals (V1-V5) and Imamura teaches controlling the control signal based on a detected voltage level (Vth) and provides both start operation and stop operation.

It would have been obvious for one of ordinary skill in the art at the time of the invention was made to provide Imamura's voltage detection unit in the AAPA device for

detecting the high voltage for display and it would have been also obvious for one of ordinary skill in the art at the time of the invention was made to provide the internal power control means of Yamakawa in the device of Imamura to control the internal power supply unit.

In reference to claims 11-12, see the above rejection. In addition, Imamura teaches detecting the power voltage levels and provides control of the display drive signals when the power supply voltage is rising an when it is falling (col. 9, lines 16-62). Even though Imamura only teaches comparing the values to a single voltage Vth, it would have been obvious to skill in the art to provide plural voltage detection levels given various conditions, for example when power is provided by an external socket or when power is supply by a battery wherein various input voltage levels are different.

3. Claims 13 and 15-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over the AAPA, Imamura, Yamakawa in view of Inoue (U. S. Patent No. 5,008,806).

In reference to claim 13 and 15, see the rejection as applied to claims 9-10. Inoue discloses a display 2 having a high voltage 17. Included is an external signal detection means, System RST and flip-flop 11, for detecting an external signal (Power On Reset). A drive control signal control means 13 controls the signals to the flat panel display in response to the detected specific signal (Power On Signal), FLATISR.

It would have been obvious for one of ordinary skill in the art at the time of the invention was made to provide the external signal detection unit of Inoue in the device of

AAPA, Imamura and Yamakawa for controlling the supply power and signals from a main system (col. 1, lines 50-53).

In reference to claims 16-17, Imamura teaches the power supply 28 receives an external detected signal RS wherein the signal changes a condition of the power supply circuit and the drive control circuit 47 also provides control of the display panel in respond to detected signals. In addition, Inoue provide changes to the power supply control signals FLATISR in response to the detected specific signal (power on reset) and, the system controls the operation of the display panel driving means in response to the detected specific signal, i.e.:, the specific signal, Power On Reset, is first detected which then produces signal FLATISR, which in turn controls the display panel driving signals 13. These would combine with Imamura to provide the proper display and power supply controls.

In reference to claim 18, Imamura provide the starting and stopping of the control signals bed on the signal levels, Vth, e.g., one level is above Vth and another is below Vth.

In reference to claim 19, refer to the rejection as applied to claims 15. In addition, the AAA discloses a three electrode surface discharged AC plasma display as claimed.

In reference to claim 20-21 the AAPA [0021] – [0026] describe the structure of an flat plasma as claimed.

4. Claims 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Heineman (U. S. Patent No. 5,465,366) in view of Inoue (U. S. Patent No. 5,008,46). In reference to claim 14, Heineman teaches a power control module for controlling a computer monitor 1 having a timing module 44, which is functions to check data to be

display on monitor 12. If there is no change in the data, timing control module 44 and power switch 40 function together to control the signals to the monitor 12, i.e. power as well as data to the display is controlled (col. 3, lines 19-44). Heineman does not teach the controller used with a flat panel display. Inoue discloses a system for controlling a flat panel display and includes detection means for detecting the condition of the power supply or supplying of external signals. In response to the detected signals, the system controls the flat panel display control signal 13 and the power control signals.

It would have been obvious for one of ordinary skill the art, that Heineman could be used with a system having a flat panel display. This would have been obvious as suggested by Inoue wherein a similar system as Heineman is used to control the power on a display. Further, Heineman teaches that the output device 12 could be monitor or several other devices (col.5, lines 31-32); however, Heineman does not specifically teach a flat panel display. Inoue provides the suggestion to one skilled in the art that flat panel displays need power and drive signal control. As modified, Heineman would simply be used with a flat panel display type monitor.

Allowable Subject Matter

5. Claims 1-8 are allowed.

6. The following is an examiner's statement of reasons for allowance:

The present invention related to a flat plasma display for displaying data in accordance with a high voltage and drive voltages produced from said high voltage to reduce power consumption. The independent claim 1 identifying the uniquely distinct features:

"a first high voltage decision unit determining whether or not said high voltage is at a specific value or within a specific range after a power supply is turned on and initialization is carried out;

a first drive voltage decision unit determining whether or not said drive voltages are at specific values or within specific ranges;

a second high voltage decision unit determining whether or not said high voltage is kept at the specific value or within the specific range after the start of a protective operation of an internal power supply circuit that generates said drive voltages;

a second drive voltage decision unit determining whether or not said drive voltages are kept at the specific values or within the specific ranges; and

a drive control signal control unit controlling drive control signals of said flat plasma display in response to the decided results of said first and second high voltage decision units and said first and second drive voltage decision units" (claim 1-8). OR

7. The closest prior art of Applicant Admitted Prior Art, Imamura (U. S. Patent No. 5,563,624) and Yamakawa (U. S. Patent No. 4,848,876).show similar systems, but either singularly or in combination, fail to anticipate or render above quoted limitations obvious.

Conclusion

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **DUC Q DINH** whose telephone number is **(703) 306-5412** The examiner can normally be reached on Mon-Fri from 8:00.AM-4:00.PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **RICHARD A HJERPE** can be reached on **(703) 305-4709**.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

Or faxed to:

(703) 872-9314 (for Technology Center 2600 only)

Hand-delivery response should be brought to: Crystal Park II, 2121 Crystal Drive, Arlington, Va Sixth Floor (Receptionist)

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.

DUC Q DINH
Examiner
Art Unit 2674

DQD
November 23, 2003